ABSTRACT

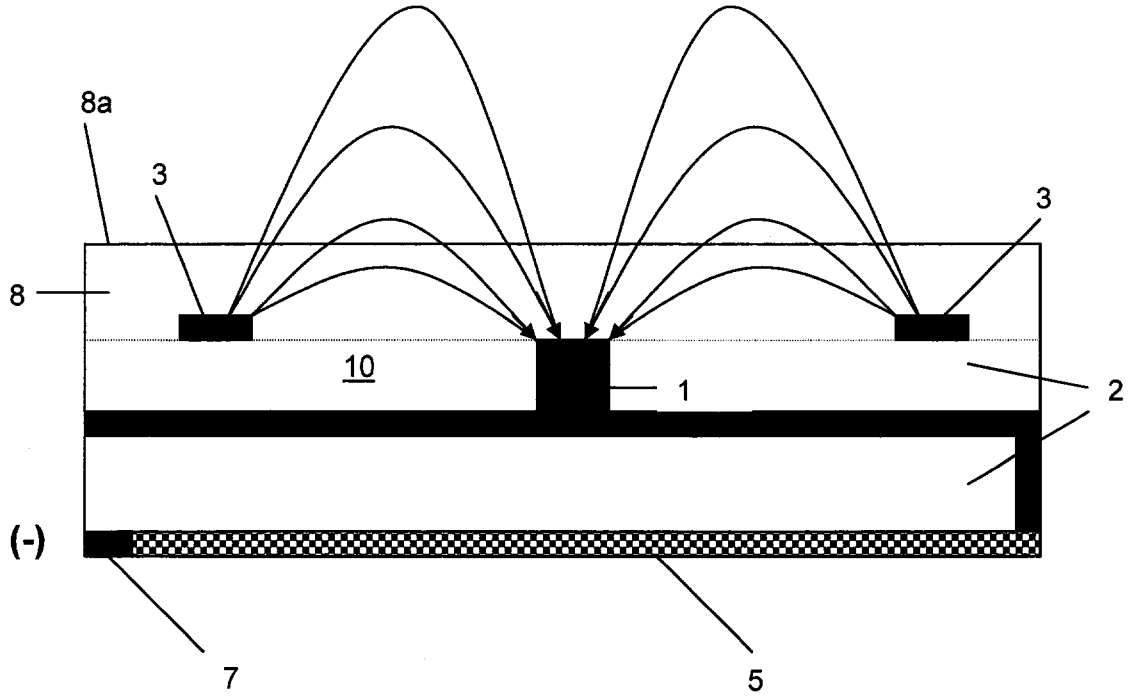
A mobile transportable electrostatic chuck for clamping thin wafers (12) without permanent connection to an external power supply unit is described. The mobile chuck allows a safe handling of thin substrates on existing production equipment because the size and thickness of the clamped substrate on the mobile chuck is similar to a standard wafer. The chuck is made from silicon wafers itself as base material (11) using an IC manufacturing processes. Bipolar electrode-unit-cells (10), combined into clusters (4) and linked to an integrated fuse (5), generate a non-uniform electric field with additional force components. Peak-electrodes (1) are introduced with the highest field density in the peak region and thus creating a three dimensional non-uniform electric field with each surrounding electrode (3). Quadratic or hexagonal electrode-unit-cells (10) enable the highest dense of unit cells, which effectively clamp wafers (12) in close proximity to the surface (8a) of the chuck at elevated temperatures.



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8a
3
3
8
10
1
2
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7
5